

Exhibit E



a Hewlett Packard
Enterprise company



Introduction to Aruba 8400

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8400

Hardware Overview

Aruba campus edge switch portfolio



2530

- Layer 2
- 8, 24 or 48 ports with 10/100 or Gig
- sFlow, ACLs, IPv6
- Fanless & compact models
- Models with 10GbE uplinks
- PoE+ models



2540

- Layer 2 with static & RIP routing
- 24, 48 ports Gig
- PoE+ models
- Fixed 10GbE Uplinks
- Internal Power supply
- Central support



2930F

- Standard Layer 3 with static, RIP routing & Access OSPF
- 4 Unit VSF Stacking
- 8, 24, 48 ports Gig
- PoE+ models
- Fixed 1GbE and 10GbE Uplinks
- Internal Power supply
- OpenFlow
- Central support



2930M

- Standard Layer 3 with static, RIP routing & OSPF
- 10 Unit Backplane Stacking
- Redundant power
- Modular 10GbE and 40GbE uplinks
- OpenFlow
- Central support
- 1440W PoE/Redundant Power



3810M

- Advanced Layer 3
- 24 or 48 port Gig
- Smart Rate multi-gigabit Ethernet
- Wire speed 40GbE
- PoE+ models
- Modular uplinks
- Redundant power
- 10 unit stacking
- OpenFlow



5400R

- Advanced Layer 3
- 6 and 12- slot compact chassis
- Smart Rate multi-gigabit Ethernet
- Wire speed 40GbE
- Redundant mgmt. and power
- 96 10GbE ports, 288 1 GbE ports
- 288 ports full PoE+ capable
- OpenFlow

Campus, branch and SMB networks

Aruba campus core and aggregation switch portfolio



3810M

- Advanced Layer 3 and BGP
- 16 to 24 ports of 10G
- Flexible uplinks using 4 ports of 10G or 2 ports of 40G
- Redundant power
- 10 unit stacking
- OpenFlow



5400R

- Advanced Layer 3 and BGP
- 6 and 12- slot compact chassis
- Smart Rate multi-gigabit Ethernet
- Wire speed 40GbE
- Redundant mgmt. and power
- 96 10GbE ports, 288 1 GbE ports
- 288 ports full PoE+ capable
- OpenFlow



8320

- Advanced Layer 3, including IPv4/IPv6 routing, BGP, and VRF
- 48 ports of 10G to support SFP/SFP+ and 6 ports of 40G to support QSFP+
- Up to 2.5Tbps of switching capacity and 1.9BPPS
- Flexible bundle that includes 2x power supplies, 5x fans, and the unit (JL479A)
- Supports SFP/SFP+ and QSFP+ Transceivers
- Wire speed 10G and 40G
- Redundant fan and power supplies



8400

- Advanced Layer 3, including IPv4/IPv6 routing, BGP, and VRF
- 8-slot chassis with redundant mgmt. module, fan, fabric module, and power
- Up to 19.2Tbps of switching capacity and 7.14 BPPS
- Flexible bundles that includes 32 ports of 10G and 8 ports of 40G (JL376A)
- Line Modules: 32Px10G w/ MACsec, 8Px40G, and 6Px40G/100G
- Wire speed 10, 40, and 100G
- Up to 256 10G ports, 64 40G ports, and 48 ports of 100G ports

Campus core and aggregation solutions

Introducing Aruba 8400: Campus Aggregation & Core



- 8 RU x 26.0" Depth
- 240 lbs. populated
- 8 Line Card Slots
- 3 Fabric Card Slots
- 2 Management Slots
- 4 Power Supplies
- 18 Fan Modules

***9.6Tb/s of Line Rate
Port Bandwidth***

1.2 Tb/s Ingress + Egress Forwarding per Slot

1.8 Tb/s Fabric Interface In + Out



19.2 Tb/s, VoQ Dynamic Load Balanced Fabric

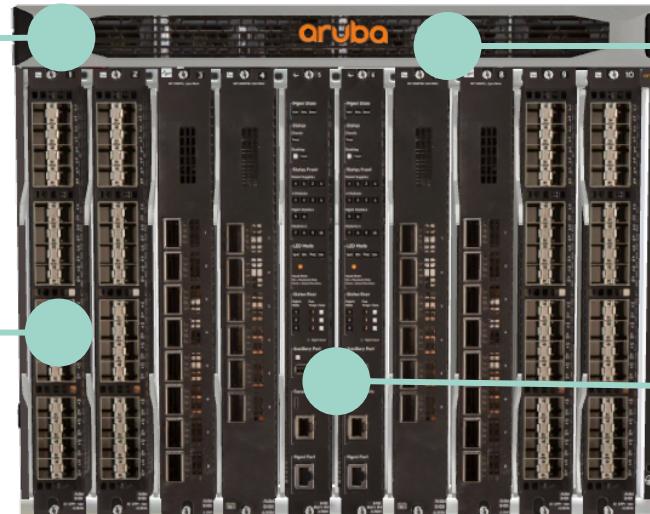
99.999% Available, Redundant Passive Chassis

8400 Hardware Architecture: Built for Scalability & HA

FRONT VIEW

N+N AC Power Supply
4x2500W PS

8 Line Card Slots
Up to 1.2 Tbps



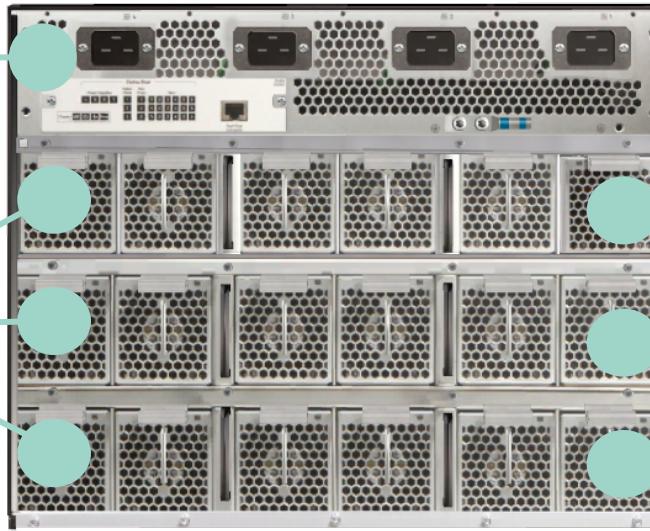
8 Rack Units.
17.4" W x
13.8" H x
26.0" D

Redundant Management Modules with X86 CPU for scalability

- Fully extensible fabric design – allows for seamless upgrades to future bandwidth scale
- Line Cards: 32x10G, 8x40G, 6x100G
- 0 to 40 degrees C
- Front to Back Airflow
- Mountable on 19 inch, 2 post rack

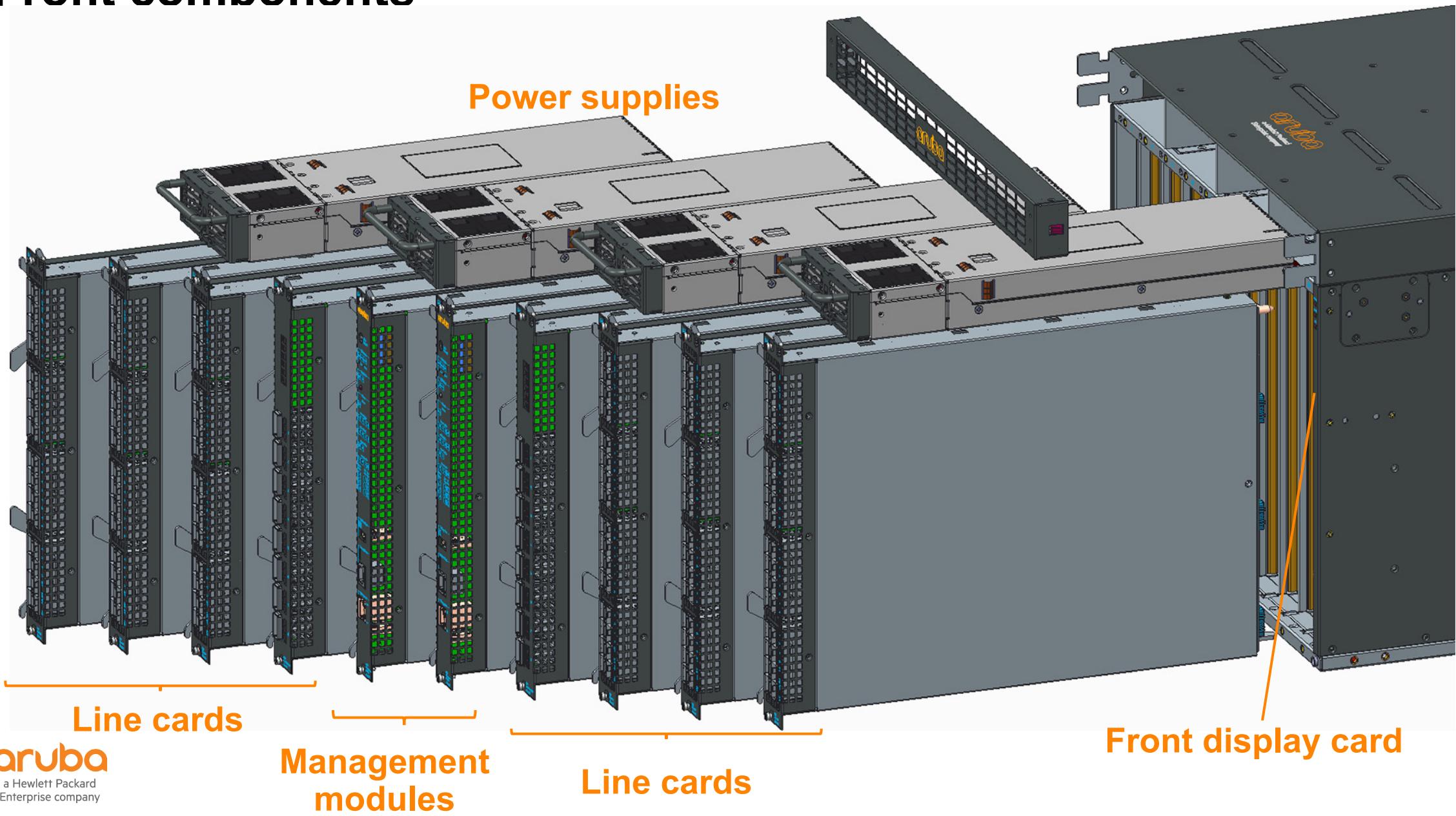
REAR VIEW

AC Inlets
3 Fabric Modules w/ N+1 Redundancy

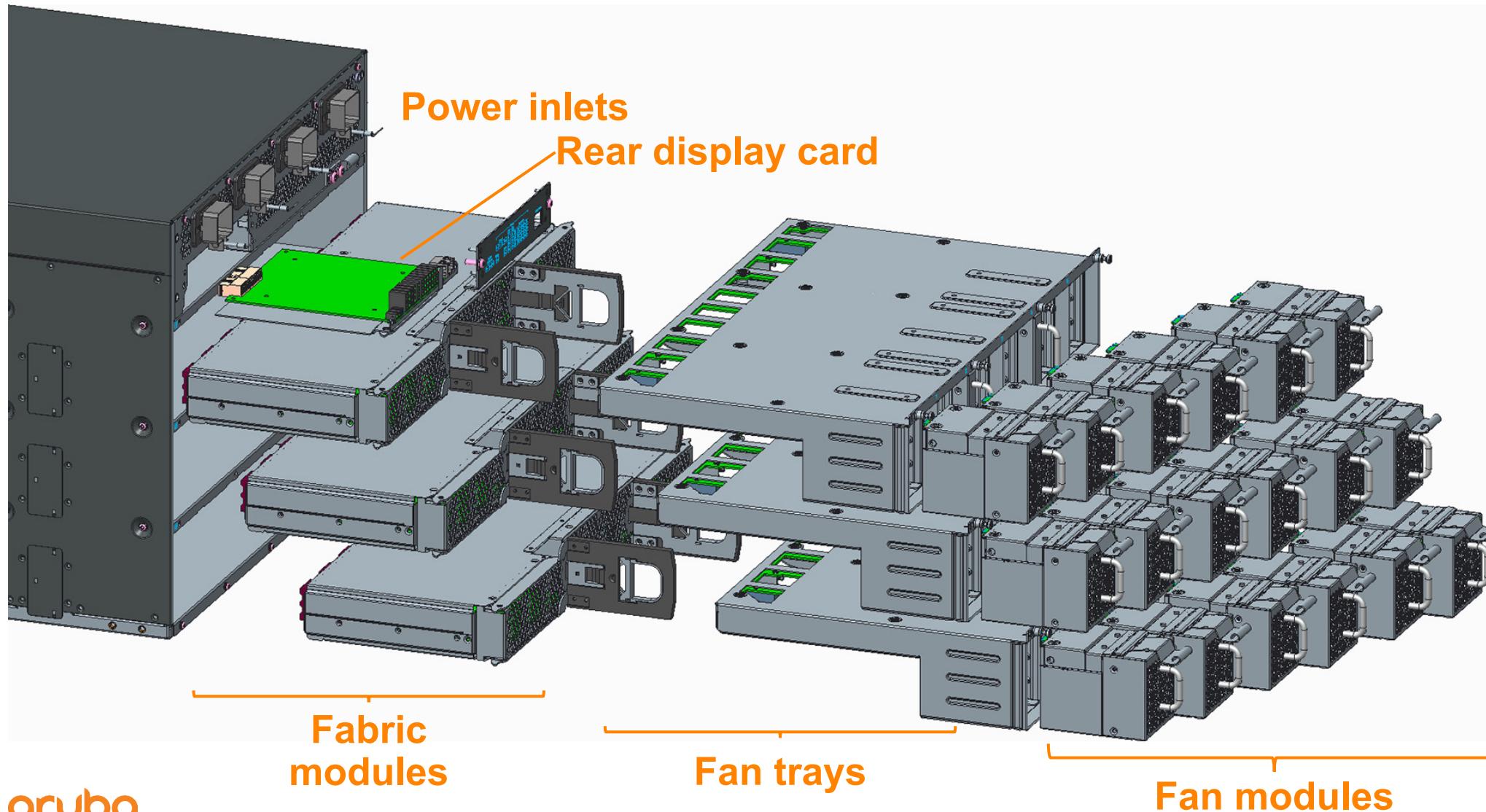


3 Rows of 6 Fans w/ N+1 Redundancy

Front components



Rear components



Line cards

JL363A - Aruba 8400 32-port 10GbE SFP/SFP+ with MACsec Advanced Module

- 10GbE x 32 SFP+ w/ MACsec
- 1x external TCAM
- Packet buffer: 1.5 GB
 - Note: MACsec not supported on ArubaOS-CX release 1



JL365A - Aruba 8400 8-port 40GbE QSFP+ Advanced Module

- 40GbE x 8 QSFP
- 1x external TCAM
- Packet buffer: 1.5 GB



JL366A - Aruba 8400 6-port 40GbE/100GbE QSFP28 Advanced Module

- 100GbE x 6 QSFP
- 2x external TCAM
- Packet buffer: 3.0 GB
- Requires 3 Fabric for 100% Throughput, estimate 80% with 2 Fabric



Management modules

JL368A - Aruba 8400 Management Module

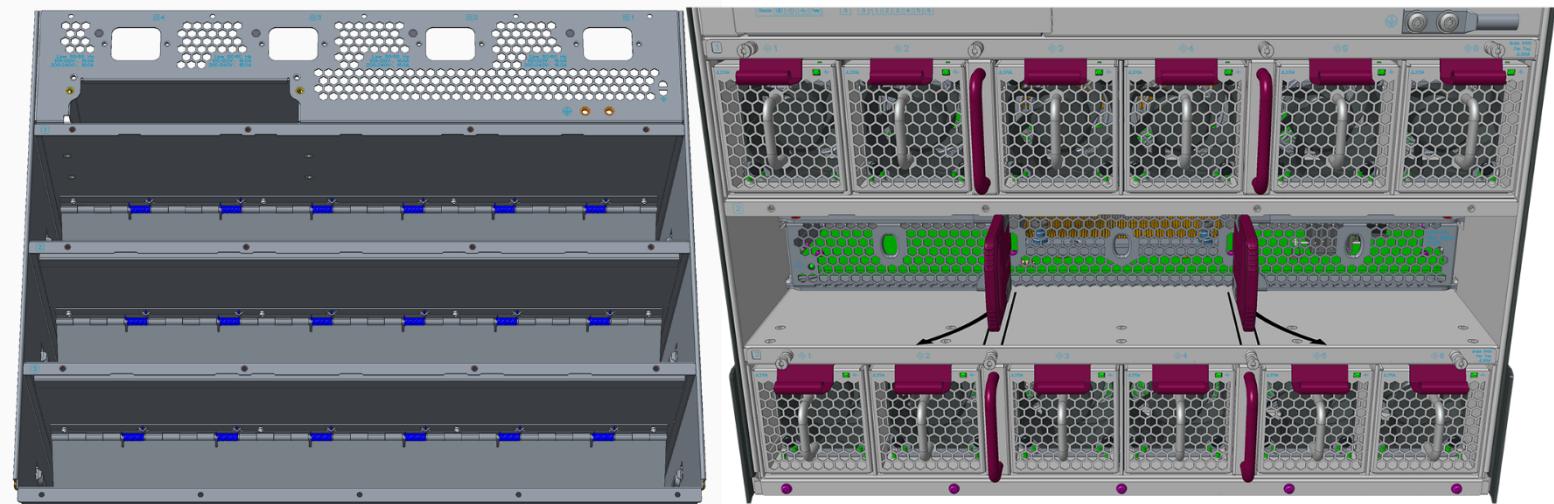
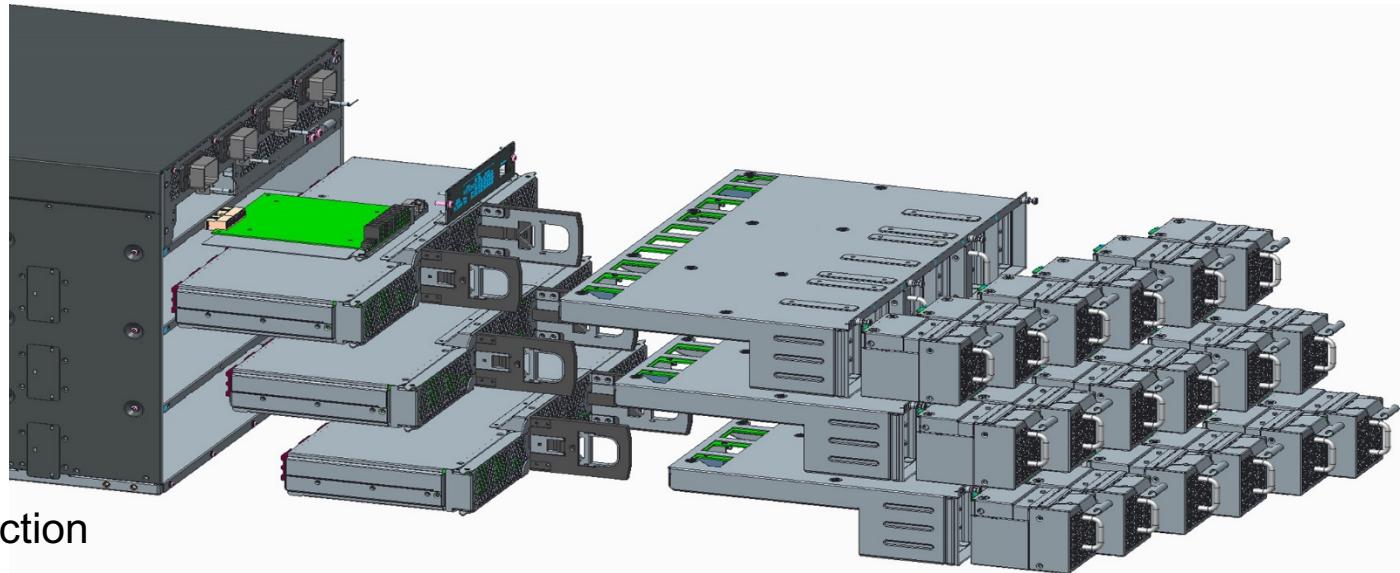
- Runs
 - ArubaOS-CX operating system
 - Management plane + control plane
- 1+1 redundancy
 - Slots 5 and 6
- Detailed status display
- CPU/memory/storage
 - Intel Broadwell-DE
 - DRAM: 32GB DDR4 DRAM
 - SSD: 120GB
- External connectors
 - Console ports: RJ45 and MicroUSB
 - OOB Ethernet management



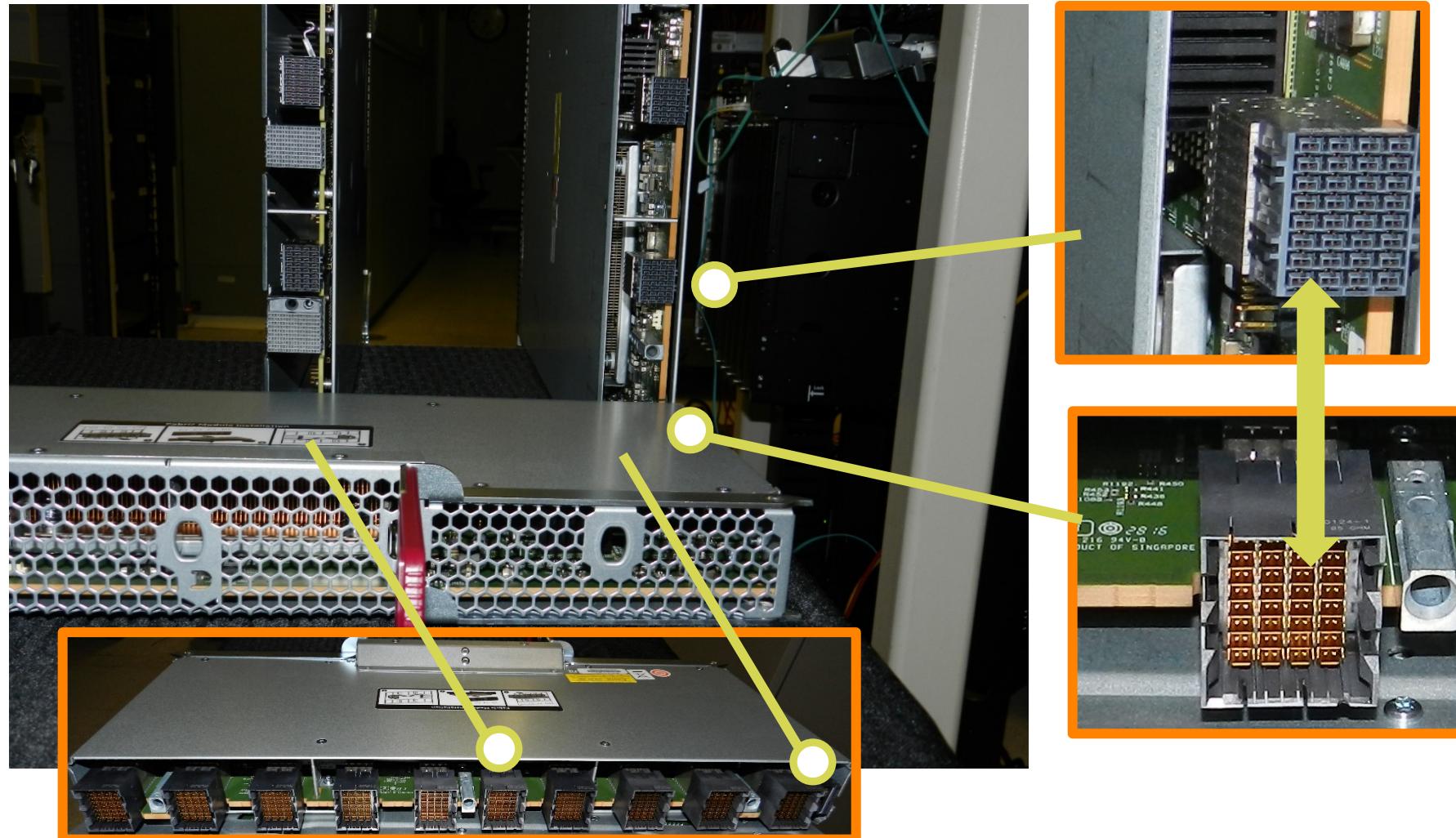
Fabric modules

JL367A - Aruba 8400 Fabric Module

- 3 slots – located behind the fan trays
- Best of Breed Merchant Silicon
- Direct Plug Orthogonal Line Card to Fabric Connection
- 180W / 614 BTU; 16.75 x 6.75 in.



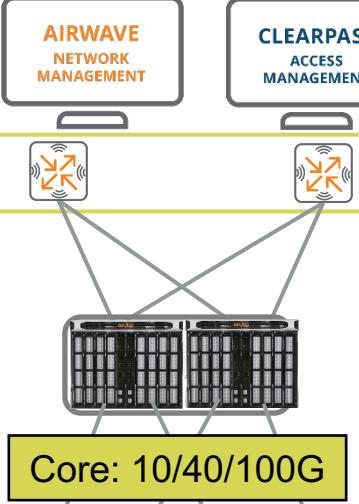
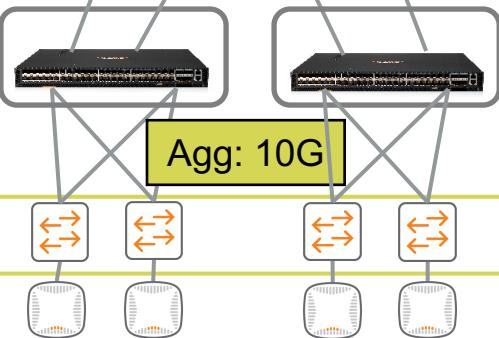
Orthogonal Connections



Aruba 8400 deployment: Campus L3 core and aggregation

Network Component / Layer	Network Hardware	Network Protocols
AIRWAVE NETWORK MANAGEMENT CLEARPASS ACCESS MANAGEMENT	Network Control Plane	
Aruba Mobility Controller	Controller	
Core Solution:8400 Building	<p>ARP > 128K (up to 512K) IPv4,v6 > 256K (up to 1M), 64K ACLs > 64K Multicast > 64K 3-4 Buildings (6-8 Agg Switches)</p>	OSPF, BGP (Internet), MLAG, ACL (policy routing), et al
Aggregation Solution: 8400 2-4 ports/LAG	<p>ARP > 64K (128K LPV) IPv4,v6 > 128K, 32K ACLs > 64K (256K) 24-48 Access (96-192x10G)</p>	OSPF, MLAG, VRF, ACLs (user policy aggregation), et al
Access Switch	Aruba 5400R, 3810, 2930	
AP	Aruba AP 320, AP 330	

Aruba 8400 deployment: Campus L3 core, 8320 in aggregation

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Aruba AP 320, AP 330	Access Switch	

ArubaOS-CX Software Architecture

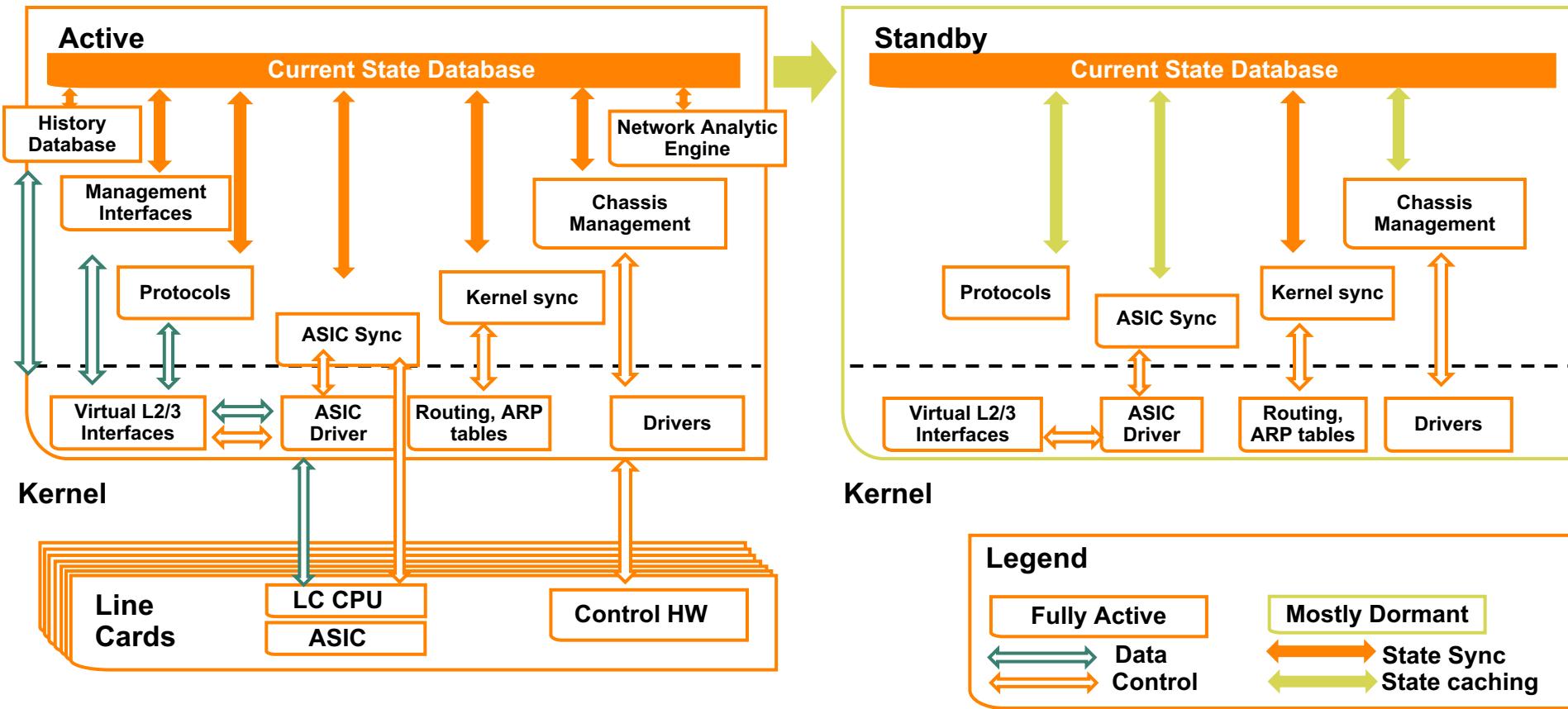
ArubaOS-CX: Heart of Aruba's Campus Core and Aggregation Products



ArubaOS-CX Philosophy

- Database driven
 - All state expressed in an in-memory DB
 - No inter-process communication
- Leverage Linux
 - Take advantage of the richness of open source community
- Fully programmable
 - Everything must be configurable through programmatic API
- Resilient
 - Daemons must be able to restart with the same state as when they went down
- Supportable
 - Rich logging and debugging built in from the start

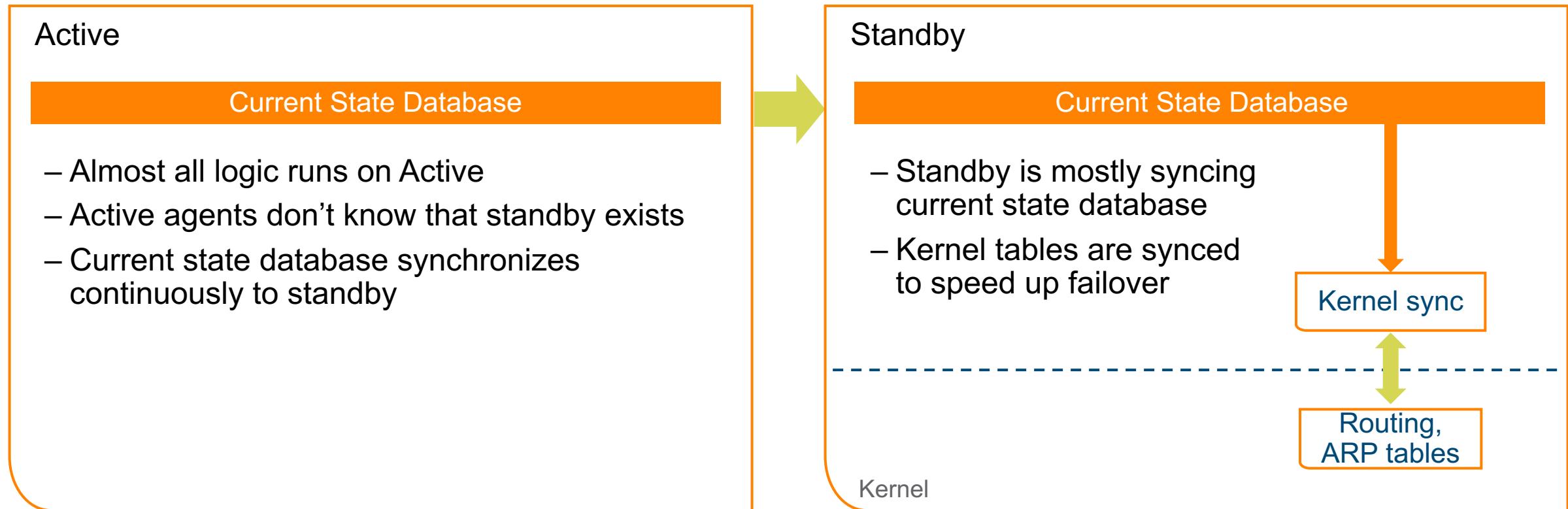
ArubaOS-CX Software Architecture



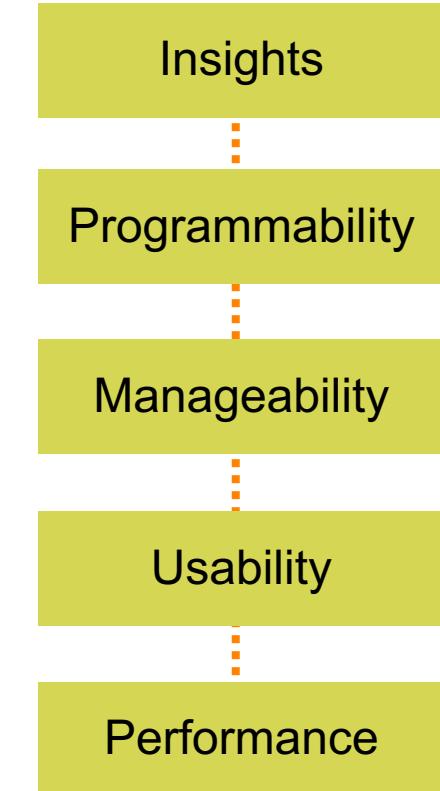
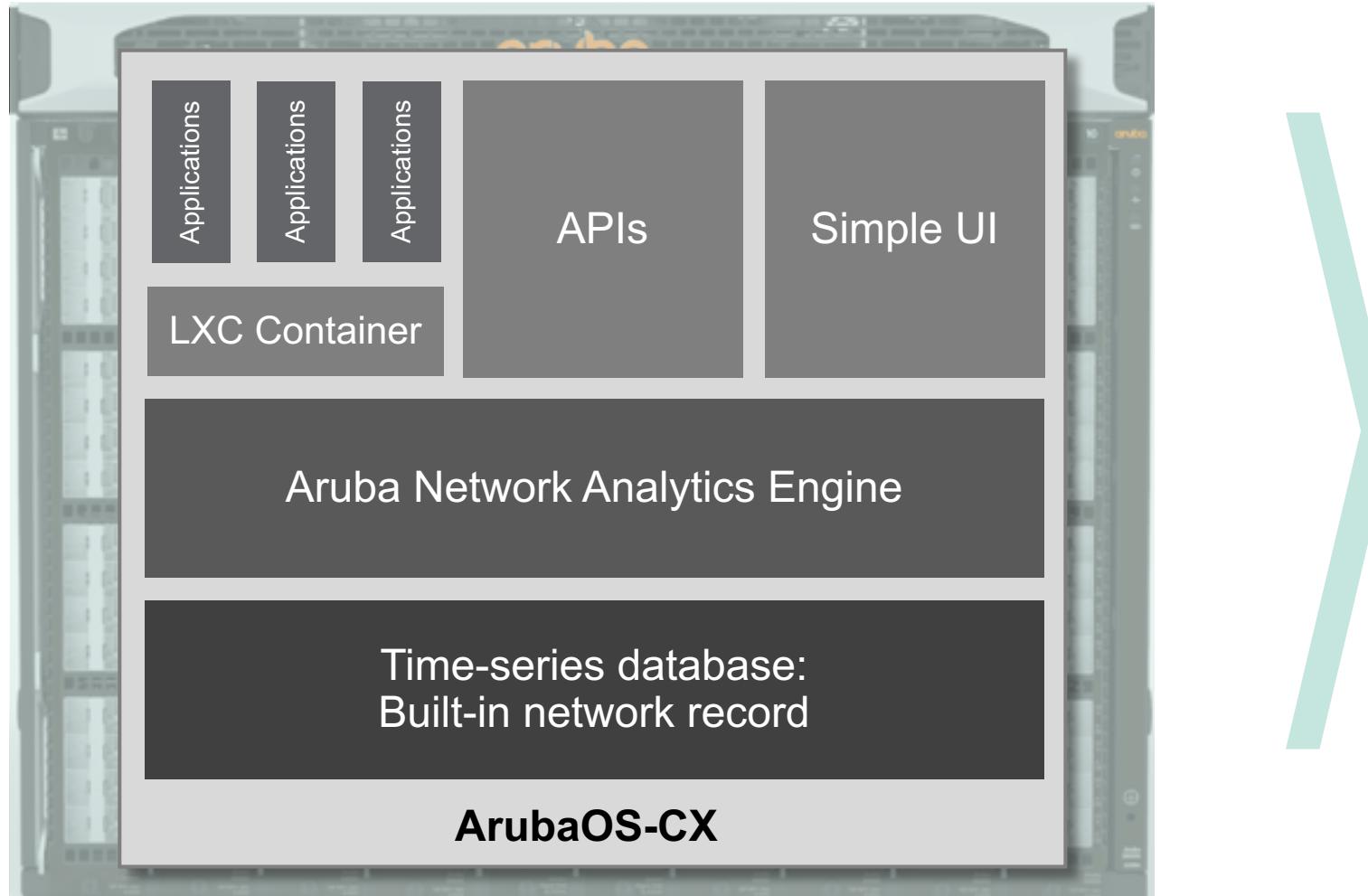
Benefits

- High modularity – easy to extend and maintain
- Full visibility – everything is in one place
- Full programmability – everything is modeled
- Resiliency – agent that fails resyncs from the DB
- High availability – easy to sync to standby MM

High Availability: Management Modules



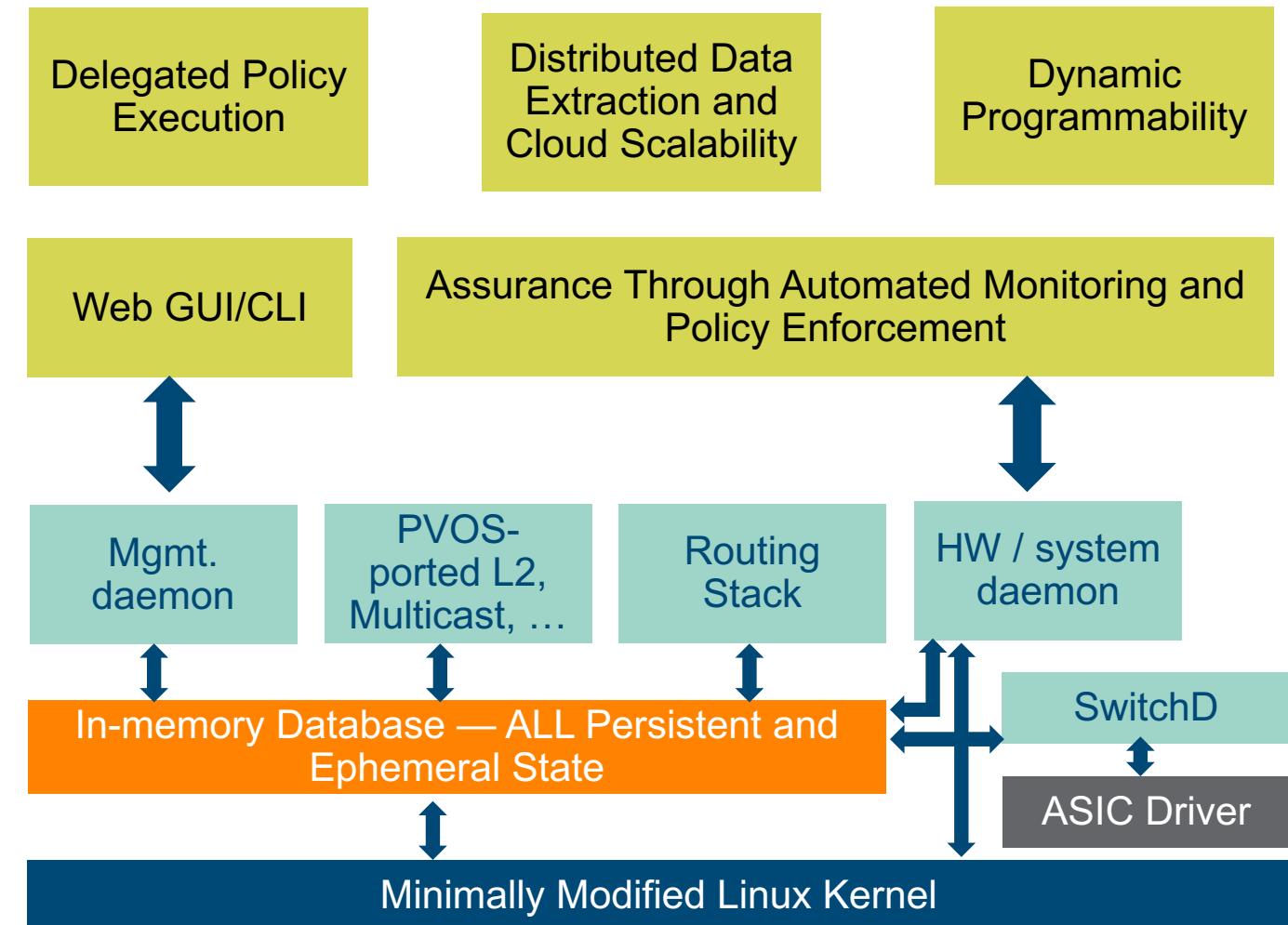
ArubaOS-CX Meets the Challenge with Innovation



Fully Open and Programmatic SW Architecture

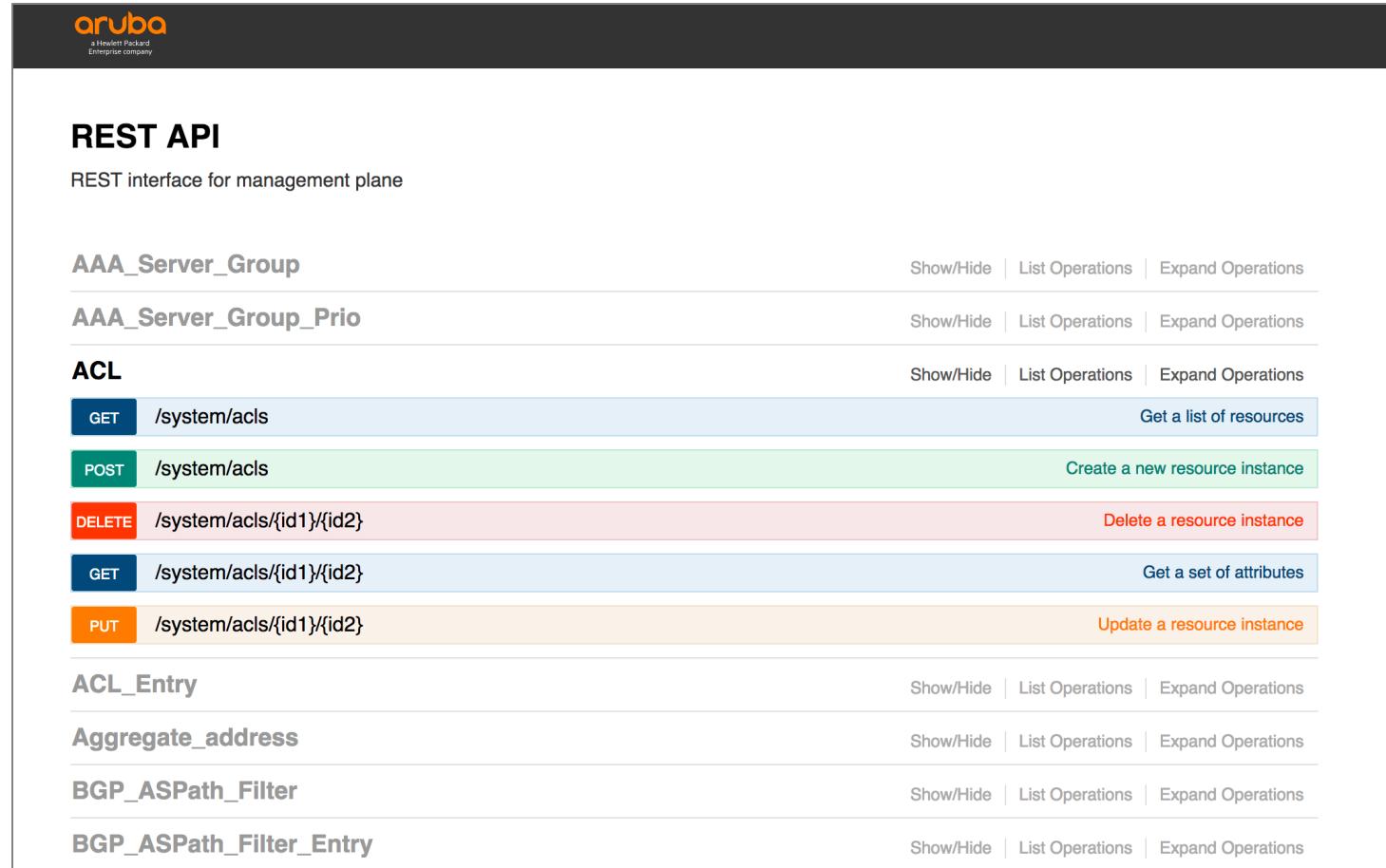
- Powerful toolsets for automation, assurance, analytics
 - Full programmable using REST API's
 - Enables distributed or centralized analytics using REST to subscribe for information
 - Root Cause analytics
 - 3rd Party customizations

- Robust foundational elements
 - Database driven architecture delivers HA, fault tolerance and configuration roll back
 - Built for scale with best-in-breed subsystems
 - Designed for feature velocity and easy replication across portfolio
 - Easy to maintain and patch



Swagger API Browser

- Online documentation
- Easy to use
- Simple testing
- Standard tool



The screenshot shows the Aruba REST API browser interface. At the top, there's a dark header bar with the Aruba logo and a sub-header "a Hewlett Packard Enterprise company". Below this, the main title "REST API" is displayed in bold, followed by the subtitle "REST interface for management plane". The page lists several API endpoints under different resource categories:

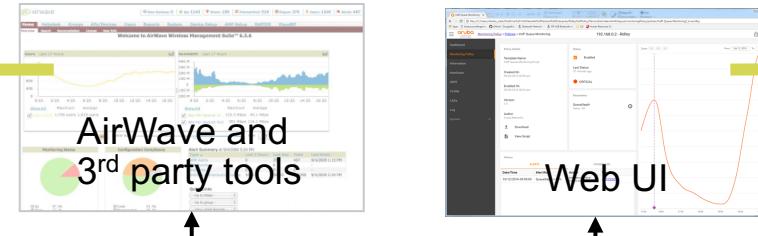
- AAA_Server_Group**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.
- AAA_Server_Group_Prio**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.
- ACL**: This section is expanded, showing the following methods for the "/system/acls" endpoint:
 - GET /system/acls**: Labeled "Get a list of resources".
 - POST /system/acls**: Labeled "Create a new resource instance".
 - DELETE /system/acls/{id1}/{id2}**: Labeled "Delete a resource instance".
 - GET /system/acls/{id1}/{id2}**: Labeled "Get a set of attributes".
 - PUT /system/acls/{id1}/{id2}**: Labeled "Update a resource instance".
- ACL_Entry**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.
- Aggregate_address**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.
- BGP_ASPath_Filter**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.
- BGP_ASPath_Filter_Entry**: Shows "Show/Hide", "List Operations", and "Expand Operations" links.

Network Analytic Engine

Monitoring & Troubleshooting Made Easy

Complement to AirWave

Complete REST API for integration
Policies can generate Syslog messages for legacy

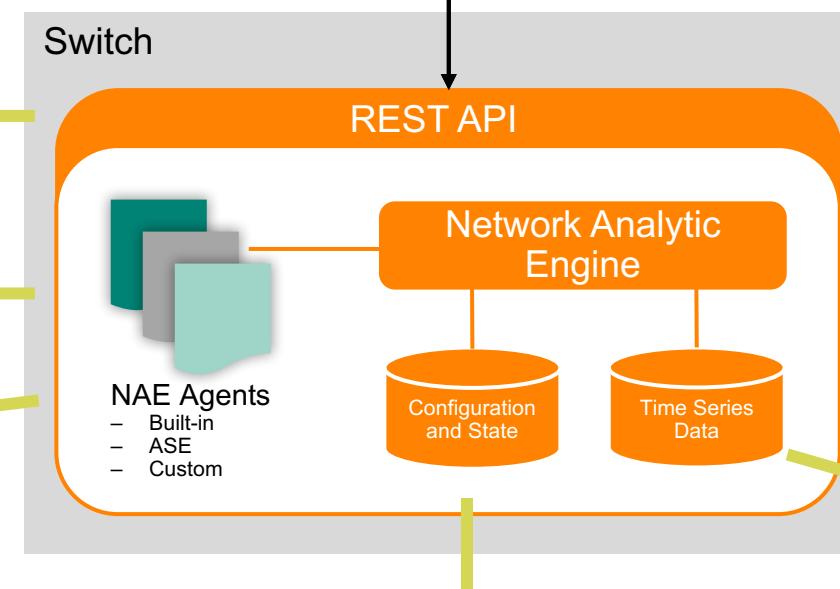


Web UI & REST API

Auto-generated for each policy script

Intelligence and Automation

Full power of Python
Parameters for customization
Variables for persistent policy state



Low system overhead and sandbox isolation

Condition Trigger Language

Scripts upload, readable, can be customized

Flexible Actions

Alert Level
CLI command execution
CLI command output capture
Configuration checkpoint diff capture
Syslog generation
Script function callback

Time series data recording capability

Wide Monitoring Capabilities

Configuration • Protocol and System State
ASIC Counters • ACL's

Network Analytic Engine Accessibility

Easy to Access

- Aruba Solution Exchange hub for solutions
- Links to useful resources, tutorials and help
- GitHub posting of Aruba NAE Agents

Easy to Use

- Users can modify and enhance Aruba supplied scripts
- Switch GUI to upload scripts and activate agents; pre-loaded and pre-activated
- REST interface to also manage scripts and agents

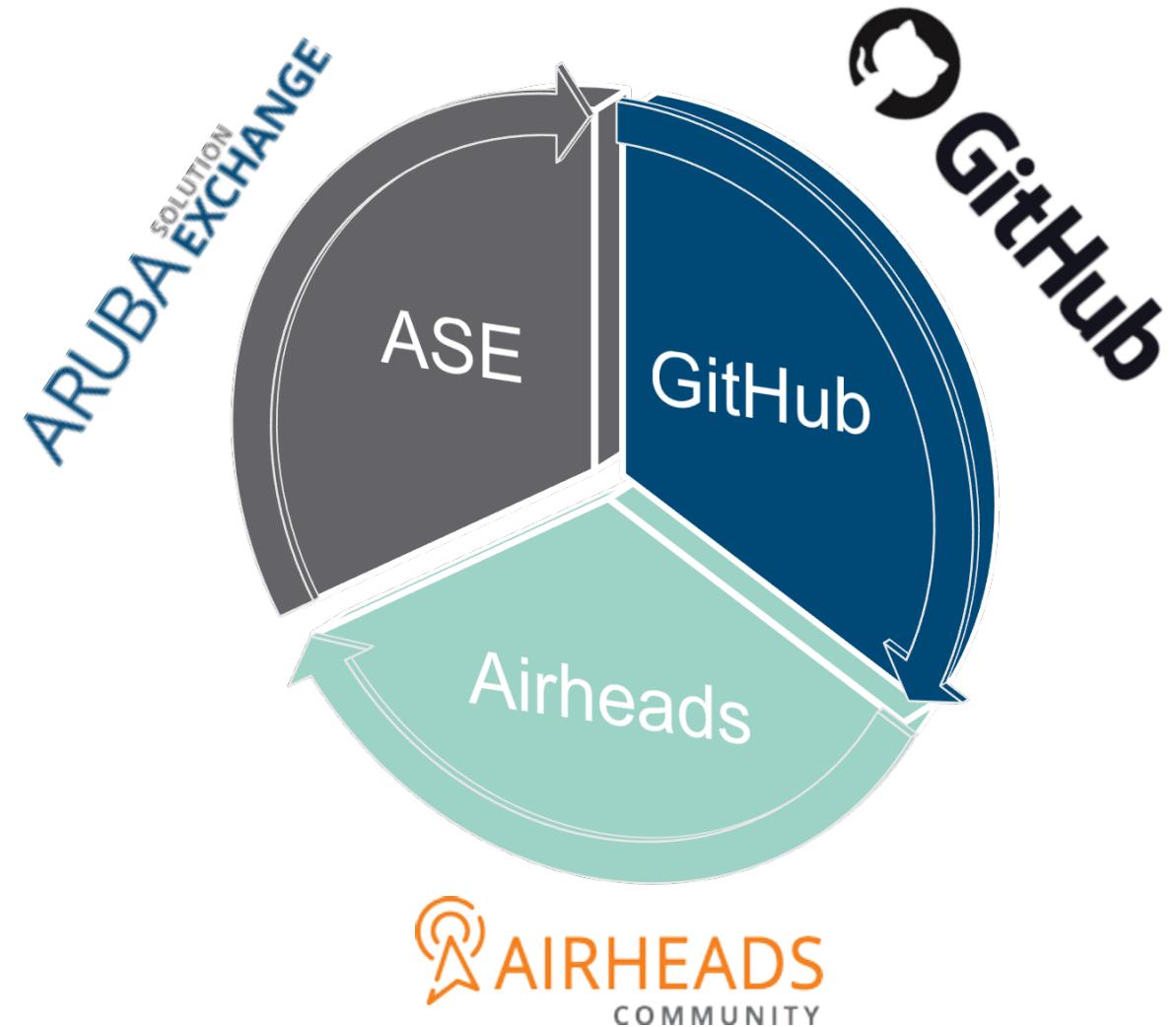
Ramping Up

- Submit requests for scripts like feature requests in the ramp up period
- Training tools

The image shows two screenshots of Aruba's network management interface. The top screenshot is the Aruba Solution Exchange homepage, featuring a large orange banner with the text 'CONFIGURATION MADE SIMPLE THROUGH INTELLIGENT WIZARDS.' and a 'GET STARTED' button. Below the banner, there are sections for 'BUILD + LEARN', 'TASK-ORIENTED', 'COMMUNITY SUPPORTED', 'MULTI-DEVICE SUPPORT', 'UNDO CONFIGURATION', and 'VALIDATION + DERIVATION'. The bottom screenshot is the Aruba Analytics dashboard, showing a sidebar with navigation links like Overview, Analytics, Interfaces, VLANs, LAGs, Users, System, and Diagnostics. The main area displays four cards: 'Agents' (listing system_resource_monitor.1.0.default, mem_monitor, and copp_stats_mon), 'Scripts' (listing system_resource_monitor.1.0, cpumonitor, memoryMonitor, memory_monitor.1.0, copp_statistics_monitor.1.0, and route_count_monitor.1.0), 'Alerts' (listing two alerts from 07/20/17 at 14:11:03 and 14:10:53), and a graph for 'mem_monitor' showing CPU usage over time.

NAE Communities

- Aruba Solution Exchange (ASE)
 - NAE primary script portal
 - Public solutions integrate directly with NAE UI
 - Community can create custom NAE solutions
- GitHub
 - Developer community
 - All Aruba NAE scripts will be posted to GitHub
 - Community can fork and enhance Aruba scripts
 - Global approval for HPE employees posting NAE scripts on GitHub
- Airheads
 - Community to glue components together
 - NAE, Aruba Solutions Exchange and GitHub
- Committed R&D investment in building NAE scripts and helping with community



- Overview
- Analytics**
- Interfaces
- VLANs
- LAGs
- Users
- System
- Diagnostics

15.108.30.246

Case 2:22-cv-00322-JRG-RSP Document 27-5 Filed 10/28/22 Page 28 of 34 PageID #: 590

11 seconds ago admin More options

Analytics → !

1 Critical 1 Major 0 Minor

[VoIP](#)
Out of a total of 4 agents

Firmware → i

Current Version: 0.1.0 (Build: genericx86-p4-Halon-0.1.0-master_wildcard-20170518190706-dev)

Primary Version: TBD

Secondary Version: TBD

Config → i

Most Recent Checkpoint: 05/17/2017 20:26:50 "CPC20170523005024"

Total of 2 checkpoints

Management Modules i

Module: Mgmt Module 1 Active

Module: Mgmt Module 2 Unassigned

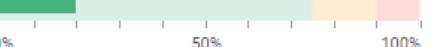
Log → !

25 Critical 0 Warning

New log entries over the last 15 seconds

CPU ✓

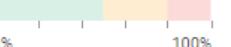
1/5: 21% Utilization



Average across all CPUs of the module

Memory ✓

1/5: 17% Memory Usage



Memory usage of the module

System Info i

Uptime: 7d 0h 31m 33s Serial #: 1/5 SGM2009100 Base MAC: f4:03:43:22:88:00

base SG7ZK2G112

Available Interfaces: 64



Link Up (Green) Link Down (Orange)

Power Supply → !

3 Faults 0 Warnings

Out of a total of 4 power supplies

Thermal → ✓

0 Critical

Out of a total of 55 sensors

Fans → ✓

0 Critical 0 Warning

Out of a total of 18 fans

+

+

+

+

- Overview
- Analytics
- Interfaces
- VLANs
- LAGs
- Users
- System
- Diagnostics

Agent Details

Name

VoIP

Script Name

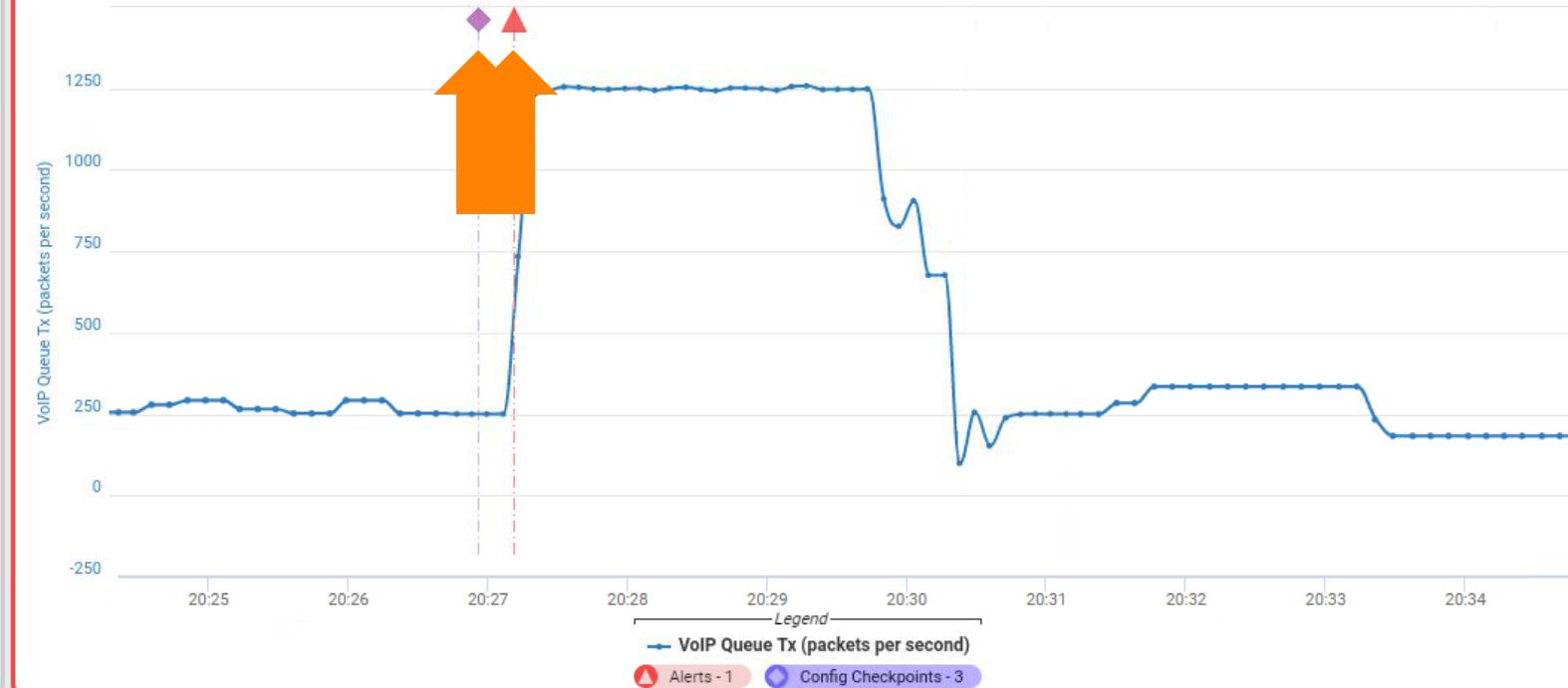
voip_queue_packets_monitoring.1.0

Version

1.0

Live 1h 1d 10d 30d 90d 180d 1y Custom

05/17/17 20:24:30 - 05/17/17 20:34:30



Status

Critical

Last Status

a few seconds ago

Parameters

- Alert_Pause - 2 Time to pause the alert
- Interface_ID - 1/1/2 Interface monitored for VoIP traffic an...
- Packets_Threshold - 600 Packets threshold level indicating ano...
- Rate_Interval - 15 Time interval for packets rate calculat...

▲ Alerts → NAVIGATE DETAILS

Time	Rule	Action(s)
05/17/17 20:27:13	VoIP queue traffic anomaly	ALERT_LEVEL_TRIGGERED

- Overview
- Analytics
- Interfaces
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Status	Action(s)
Critical	05/17/17 20:27:13 VoIP queue traffic anomaly ALERT_LEVEL_TRIGGERED
Last Status a few seconds ago	<ul style="list-style-type: none">Time to pause the alertInterface_ID - 1/1/2 Interface monitored for VoIP traffic an...Packets_Threshold - 600 Packets threshold level indicating ano...Rate_Interval - 15 Time interval for packets rate calculat...

- Overview
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Agent Details

Live 1h 1d 10d 30d 90d 180d 1y Custom
05/17/17 20:24:30 - 05/17/17 20:34:30

Service Impact Analysis

IP-SLA Neighbor Access Switch Report - Wed May 17 20:27:31 2017

Access Switch	IP	Connected Interface	MOS▲	ICPIF	
R3U-SW099	16.242.93.23	1/3/1	1.2	49	details
R3U-SW094	16.242.93.112	1/3/3	2.3	41	details
R3U-SW097	16.242.93.21	1/2/1	2.3	43	details
R3U-SW089	16.242.93.12	1/3/11	2.6	35	details
R3U-SW077	16.242.93.19	1/2/14	2.9	30	details
R3U-SW014	16.242.93.128	1/2/21	3.1	28	details
R3U-SW023	16.242.93.9	1/3/33	3.1	27	details
R3U-SW145	16.242.93.92	1/2/21	3.3	22	details
R3U-SW297	16.242.93.105	1/2/17	3.4	20	details

20:33 20:34

Service Impact Analysis, Root Cause An..

BACK

Last Status
a few seconds ago

Packets_Threshold - 600
Packets threshold level indicating an...

Rate_Interval - 15
Time interval for packets rate calculat...

Overview

Analytics

Interfaces

VLANs

LAGS

Users

System

Diagnostics

Agent Details

Name

VoIP

Script Name

voip_queue

Version

1.0

Status

Critical

Last Status

a few seconds ago

Root Cause Analysis

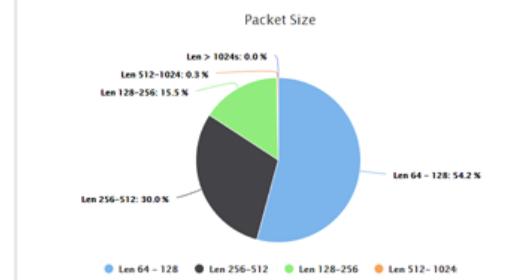
Traffic Anomaly Report

Identified top talker; captured and analyzed top talker traffic sample. Wed May 17 20:27:35 2017

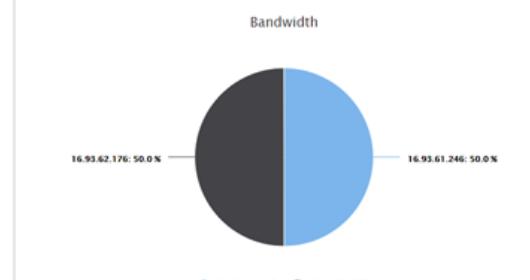
Top Talker IP Address	Top Talker MAC Address	User Role	Access Switch: Port	Connected Via	Traffic Rate KB/s	
16.93.62.176	88:51:FB:7A:D6:CB	PC-ENG	R3U-SW099	1/3/1	9707	details

Packet capture of 16.93.62.176 traffic contributing to queue '7'

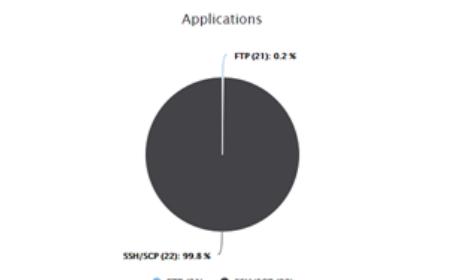
Time: Wed May 17 20:27:35 2017 Switch: R3U-SW099, Port: A13 Classifier: match mac 8



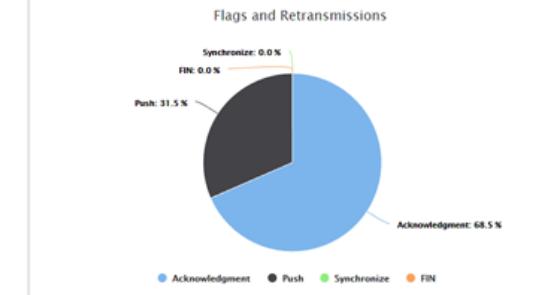
Frames/Packets	Total Frames/Packets	Total Bytes
Discarded	3434	1542164
Ethernet	11337	2187115
TCP	11337	2187115
Vlan	11337	2187115



Host	Ingress Bytes	Egress Packets	Ingress Packets	Egress Packets
16.93.62.176	1612949	574166	4569	6768
16.93.62.246	574166	11612949	6768	4569



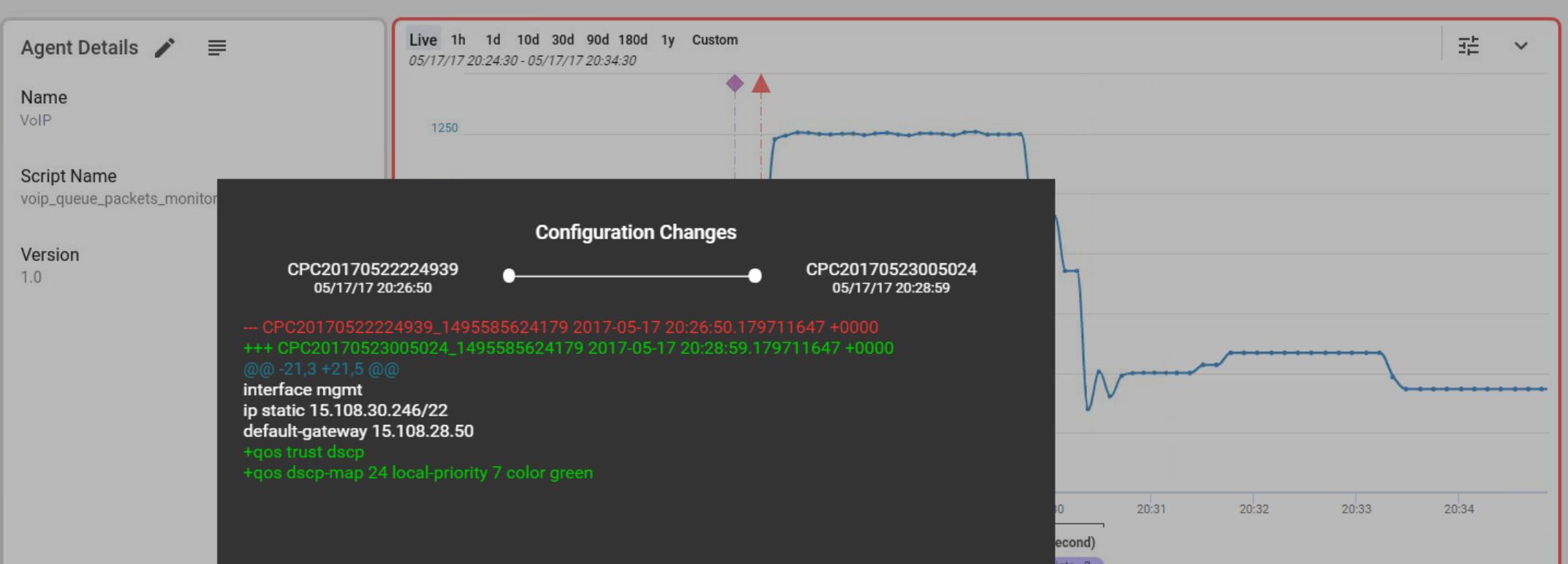
Application	Ingress Bytes	Egress	Ingress Packets	Egress Packets
SSH/SCP	2093202	2093202	10173	10173
FTP	3151	3151	35	35



Number	Time	Source	Destination	Protocol	Length	Info
3791	0.176099	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3792	0.176260	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3793	0.176500	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3794	0.176512	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3795	0.176730	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3796	0.176863	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3797	0.176924	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3798	0.177223	16.93.61.246	16.93.62.176	TCP	70	33740 > 50691 [ACK] Seq=1...
3799	0.186979	16.93.61.176	16.93.62.246	TCP	606	50691 > 33740 [PSH,ACK] S...

CLOSE

- Overview
- Analytics
- Interfaces
- VLANs
- LAGs
- Users
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DATE	DETAILS
Action(s)	
traffic anomaly	ALERT_LEVEL_TRIGGERED
REVERT	CLOSE
?	Interface monitored for VoIP traffic an...
?	Packets_Threshold - 600 Packets threshold level indicating ano...
?	Rate_Interval - 15 Time interval for packets rate calculat...



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Thank You!